

WHAT IS CLAIMED IS:

1 1. An isolated bacterium as deposited as ATCC No.
2 PTA-2500.

1 2. An isolated bacterium comprising the following
2 characteristics: Gram negative, bacilliary, about 0.2X0.8
3 μm, facultative anaerobe, grows between 15° and 45°C with a
4 temperature optimum of 37°C, grows between pH 4-11 but not
5 at pH 2, grows in AB13 medium or minimal medium, is motile,
6 lacks a capsule, lacks spores, and produces an elastic,
7 exopolysaccharide with a sugar content of galactose, fucose,
8 glucose, mannose in a ratio of about 1:2:3:6.

1 3. The isolated bacterium of claim 2, further
2 comprising the characteristics of an antibiotic sensitivity
3 profile as in Table 2, a biochemistry profile as in Table 3,
4 and a carbon utilization profile as in Table 4.

1 4. The isolated bacterium of claim 3, further
2 comprising , the total protein SDS-PAGE profile of the LAB-1
3 strain of FIGURE 2 and FIGURE 3.

1 5. The isolated bacterium of claim 4, further
2 comprising the characteristics of a 16S rRNA gene of SEQ ID
3 NO: 1.

1 ~~6.~~ An isolated bacterium comprising the 16S rRNA gene
2 of SEQ ID NO: 1.

1 ~~7.~~ An isolated bacterium that produces an
2 exopolysaccharide consisting essentially of neutral sugars
3 migrating at the same rate as mannose, fucose, fructose and
4 galactose, acidic sugars migrating at the same rate as
5 fucose and amine sugars migrating at the same rate as
6 glucose and fucose, wherein the sugar ratio of
7 galactose:fucose:glucose:mannose is about 1:2:3:6.

1 8. The isolated bacterium of claim 7, further
2 comprising the 16S rRNA gene of SEQ ID NO: 1.

1 ~~9.~~ An exopolysaccharide consisting essentially of
2 neutral sugars migrating at the same rate as mannose,
3 fucose, fructose, and galactose, acidic sugars migrating at
4 the same rate as fucose and amine sugars migrating at the

5 same rate as glucose and fucose, wherein the sugar ratio of
6 galactose:fucose:glucose:mannose is about 1:2:3:6.

1 ~~10.~~ An exopolysaccharide produced by the LAB-1 strain
2 at ATCC No. PTA-2500.

1 11. An exopolysaccharide produced by the bacterium of
2 claims 1-8 .

1 12. The exopolysaccharide of claim 11, for use as a
2 nutrient supply for plant or animal growth.

1 13. The exopolysaccharide of claim 11, wherein the
2 exopolysaccharide is purified and used as a food or drug
3 additive.

1 14. The exopolysaccharide of claim 11, wherein the
2 exopolysaccharide is purified and used as a plasma extender.

1 15. The exopolysaccharide of claim 11, for a use
2 selected from the group consisting of viscosity modifier,
3 adhesive, filler, extender, expander, and biostat.

1 ~~16.~~ A biofilm, comprising an exopolysaccharide
2 consisting essentially of neutral sugars migrating at the
3 same rate as mannose, fucose, fructose and galactose, acidic
4 sugars migrating at the same rate as fucose and amine sugars
5 migrating at the same rate as glucose and fucose, wherein
6 the sugar ratio of galactose:fucose:glucose:mannose is about
7 1:2:3:6.

1 17. The biofilm of claim 16, which is produced by the
2 bacterium of claims 1-8.

1 18. A plasma expander comprising a purified
2 exopolysaccharide consisting essentially of neutral sugars
3 migrating at the same rate as mannose, fucose, fructose and
4 galactose, acidic sugars migrating at the same rate as
5 fucose and amine sugars migrating at the same rate as
6 glucose and , fucose, and wherein the
7 galactose:fucose:glucose:mannose is in a ratio of 1:2:3:6.

1 19. The plasma expander of claim 18, wherein the
2 exopolysaccharide is produced by LAB-1 at ATCC No. PTA-2500.

1 20. The plasma expander of claim 18, wherein the
2 exopolysaccharide is produced by the bacterium of claims 1-
3 8.

1 21. The plasma expander of claim 18, further
2 comprising cations in the following concentrations: sodium
3 at 110 to 120 mEq/l, calcium at about 5 mEq/l, potassium 0
4 to 3 mEq/l, and magnesium at 0 to 0.9 mEq/l.

1 22. The plasma expander of claim 18, further
2 comprising at least one buffer and a nutrient, and
3 optionally, vitamin K and optionally, human serum albumin.

1 23. A composition, which inhibits the growth and
2 development of the bacterium of claims 1-8.

1 24. The composition of claim 23, which comprises
2 propionic acid.

3 25. The composition of claim 23, which comprises a
4 derivative of propionic acid.

1 26. The composition of claim 23, which comprises a
2 compound with a chemical structure or backbone related to
3 propionic acid.

1 27. The composition of claim 23, which comprises 2-(4-
2 isobutylphenyl)-propionic acid.

1 28. A composition, which inhibits the biofilm
2 production of the bacterium of claims 1-8.

1 29. The composition of claim 28, which comprises
2 propionic acid.

1 30. The composition of claim 28, which comprises a
2 derivative of propionic acid.

1 31. The composition of claim 28, which comprises a
2 compound with a chemical structure or backbone related to
3 propionic acid.

1 32. The composition of claim 28, which comprises 2-(4-
2 isobutylphenyl)-propionic acid.

1 33. A composition, which inhibits the growth and
2 development of a mucoid organism.

1 34. The composition of claim 33, which comprises
2 propionic acid.

1 35. The composition of claim 33, which comprises a
2 derivative of propionic acid.

1 36. The composition of claim 33, which comprises a
2 compound with a chemical structure or backbone related to
3 propionic acid.

1 37. The composition of claim 33, which comprises 2-(4-
2 isobutylphenyl)-propionic acid.

1 38. A composition, which inhibits the biofilm
2 production of a mucoid organism.

3 39. The composition of claim 38, which comprises
4 propionic acid.

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1 40. The composition of claim 38, which comprises a
2 derivative of propionic acid.

1 41. The composition of claim 38, which comprises a
2 compound with a chemical structure or backbone related to
3 propionic acid.

1 42. The composition of claim 38, which comprises 2-(4-
2 isobutylphenyl)-propionic acid.